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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,335	12/30/2003	Suzanne Walker Kahne	4555-121 US	8137

7590 05/18/2006

Patrick H. Higgins
Mathews, Collins, Shepherd & McKay
Suite 306
100 Thanet Circle
Princeton, NJ 08540

EXAMINER

MARTIN, PAUL C

ART UNIT	PAPER NUMBER
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1655

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,335	KAHNE ET AL.	
	Examiner	Art Unit	
	Paul C. Martin	1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-11 and 21-23 are pending in this application and were examined on their merits.

All objections and rejections not repeated in the instant Action have been withdrawn due to Applicant's response to the previous Action.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

New Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kahne *et al.* (US 2002/018266 A1).

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Kahne teaches a method for identifying compounds with the ability to inhibit GlcNAc Transferase activity, wherein MurG, C¹⁴ labeled UDP-GlcNAc, and a substrate analog are combined under conditions suitable for the binding and catalysis of MurG to the labeled UDP-GlcNAc, and measuring the amount of the formed coupling product is then monitored over time as a control, a potential inhibitory compound is added to the mixture and the decrease in production of labeled coupling product is monitored and compared to the control (Pg. 6, Columns 1&2 , Paragraphs [0048], [0049] and Pg. 20, Claim 36). It is inherent in the method that a compound that would prevent catalysis of an enzyme with a substrate would do so by preventing binding by the enzyme to the substrate, as it is well known in the art that any reaction between enzyme and substrate is predicated on a binding step.

Claim Rejections - 35 USC § 103

Claims 1-11 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahne *et al.* (US 2002/018266 A1) in view of Helm *et al.* (2003).

The teachings of Kahne were discussed above.

Kahne does not teach a method wherein the label is the fluorophore fluorescein and the labeled substrate is the UDP-GlcNAc analog Formula 1.

Kahne does not teach performing a donor displacement assay based on the displacement of a fluorescently labeled glycosyl donor.

Helm teaches a donor displacement method to identify inhibitors of MurG, wherein the labeled substrate is the fluorescein labeled UDP-GlcNAc analog F1 (Pg. 11168, Column 1, Line 29-38 and 45-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method as taught by Kahne for identifying compounds with the ability to inhibit GlcNAc Transferase activity with the donor displacement method to identify inhibitors of MurG taught by Helm, wherein the labeled substrate is the fluorescein labeled UDP-GlcNAc analog F1 because this would have been a high-throughput method for rapidly screening large volumes of compounds for binding inhibition activity. The ordinary artisan would have been motivated to combine the two methods in order to rapidly and accurately screen compounds for inhibition for any glycosyltransferase. There would have been a reasonable expectation of success based upon the similarities of the two methods, both being drawn toward the characterization of the inhibition of MurG, using labeled UDP-GlcNAc.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole is *prima facie* obvious to one with

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ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence or evidence to the contrary.

Response to Arguments

The Applicants arguments in response to the Office Action filed 10/31/05 are deemed moot in view of the new art rejections above.

No Claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul C. Martin whose telephone number is 571-272-3348. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on 571-272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Martin
Examiner
Art Unit 1655

05/11/06


TERRY MCKELVEY, PH.D.
SUPERVISORY PATENT EXAMINER